

EVALUATION OF THE ONE-WAY TRAFFIC SYSTEM ALONG THE GALLE ROAD CORRIDOR

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Degree of Master of Engineering in Highway and Traffic Engineering

Department of Civil Engineering

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Sri Lanka

January 2011

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Thesis submitted in partial fulfillment of the requirements for the degree Master of
Engineering

Department of Civil Engineering

University of Moratuwa
Sri Lanka

January 2011

DECLARATION

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ABSTRACT

Traffic congestion is an extensive problem in urban environments in Sri Lanka. This is an in particular a serious problem in Colombo especially during peak periods. As a result of congestion, increase in following parameters; travel time, delays at intersections, accidents, fuel waste, and air pollution can be observed. To tackle the congestion problem several remedial actions have been used. As one such measure one way traffic flow system was introduced in 2006 between Bambalapitiya and Kollupitiya by City Traffic Police with the objective of reducing the traffic congestion.

The objective of this research is to evaluate the performance of the one-way traffic arrangement along the Galle Road corridor. Quantitative research methodology was utilized in this study. The research data (traffic, accidents, new registered vehicles etc.) were gathered from several organizations and sources, which represent before and after the traffic system conversion. The traffic flow, travel time, number & severity of accidents, travelling speed, and emissions before and after the traffic conversion were analyzed in the specific stretch and compared.

The results show that the traffic flow along the Galle Road has moderately reduced after the implementation of the one-way system but traffic flow on R.A. de Mel Mawatha has increased significantly. However, there is no significant difference in travel time along the both roads. The amount of emission along the Galle Road has reduced by about 50% of the earlier amount but along R.A. de Mel Mawatha it has increased. Travel distances have increased for many user groups especially the public transport users. Particularly bus commuters were faced lots of problem while they reach the bus halts and their destinations. Parking has been severely restricted on both road segments causing inconvenience to general public. After the implementation of one-way system the numbers of accident have been reduced but there is a clear indication of lack of enforcement. The above shows that the social cost of the present one-way system outweighs its expected benefits.

Keywords: one-way traffic, accident, emission, travel time, public transport.

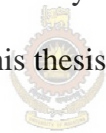
DEDICATION

I dedicate this thesis to my parents, who have adored my life from birth with affection and love. Thank you for giving me a chance to prove and improve myself through all my walks of life.

Also, this thesis is dedicated to my loving husband, who has been a great source of motivation and inspiration. I give my deepest expression of love and appreciation for the encouragement that you gave and the sacrifices you made during this graduate program.

And this thesis is dedicated to my lovely brother, who has encouraged me in several ways as not only a brother but also a friend.

Finally, this thesis is dedicated to all those who believe in the richness of learning.



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ACKNOWLEDGEMENT

I owe a great many thanks to a great many people who helped and supported me during the writing of this thesis. First and foremost, I would like to thank to my supervisor of this project, Prof.J.M.S.J.Bandara for the valuable guidance and advice. He inspired me greatly to work in this project. His willingness to motivate me contributed tremendously to my project. Also, I would like to take this opportunity to thank to the University of Moratuwa for offering this chance to do my research in a real problem. I would also thank to Civil Engineering Department and my faculty members without whom this project would have been a distant reality. Thanks and appreciation to the people, who helped a lot for my thesis at Road Development Authority, Police Station – Kollupitiya, and Department of Motor Traffic - Colombo for their support. Finally, an honorable mention goes to my family and friends for their understandings and supports on me in completing this project. Without helps of the particular that mentioned above, I would face many difficulties while doing this project.

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LIST OF ABBREVIATIONS

Abbreviation	Description
CMA	Colombo Metropolitan Area
CTB	Ceylon Transport Board
Mw	Mawatha
TSP	Total Suspended Particles

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